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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/847,908	05/03/2001	Alain R. Comeau	A560MMP-12	6833

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Michael A. Sileo, Jr.
Microsemi Corporation
8131 LBJ Freeway
Suite 800
Dallas, TX 75251-1333

EXAMINER

YAM, STEPHEN K

ART UNIT PAPER NUMBER

2878

DATE MAILED: 10/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/847,908

Applicant(s)

COMEAU, ALAIN R.

Examiner

Stephen Yam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No: ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Objections

2. Claim 17 is objected to because of the following informalities:

It is unclear whether "a first wavelength range of light" in line 3 is the same "first wavelength range of light" as claimed in Claim 16 and whether "a second wavelength range of light" in line 5 is the same "second wavelength range of light" as claimed in Claim 16.

3. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-6, 8-12, 14, and 15 are rejected under 35 U.S.C. 102(b) as being unpatentable by Kato et al. US Patent No. 3,617,753.

Regarding Claim 1, Kato et al. teach an apparatus for generating an electronic signal in response to selected wavelengths of light comprising (see Fig. 3) a first photodiode (22a) for converting at least the selected wavelengths of light to a corresponding first electronic signal, a

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second photodiode (22b) for converting at least additional wavelengths of light to a corresponding second electronic signal, and a circuit (see Fig. 8) for manipulating the first and second electronic signals to generate an output signal in response to the selected wavelengths of light.

Regarding Claim 9, Kato et al. teach an apparatus for generating an electronic signal in response to selected wavelengths of light comprising (see Fig. 3) a first sensor (22a) for converting at least the selected wavelengths of light to a corresponding first electronic signal, a second sensor (22b) for converting at least additional wavelengths of light to a corresponding second electronic signal, wherein the first and second sensors are provided with a spectral sensitivity differential (see Fig. 9 and Col. 4, lines 40-49), and a circuit (see Fig. 8) for manipulating the first and second electronic signals to generate an output signal in response to the selected wavelengths of light.

Regarding Claims 2-4, 10, and 15, Kato et al. teach the first and second photodiodes provided with a spectral sensitivity differential, having dissimilar optical thicknesses, and at least one photodiode configured for converting visible light to an electronic signal. (see Fig. 9 and Col. 4, lines 38-49).

Regarding Claims 5 and 11, Kato et al. teach one photodiode having an optical thickness of about 7.0 micrometers (see Col. 4, lines 39-41).

Regarding Claims 6 and 12, Kato et al. teach one photodiode having an optical thickness of about 3.5 micrometers (see Col. 4, lines 39-41).

Regarding Claims 8 and 14, Kato et al. teach (see Fig. 8) the circuit for manipulating the first and second signals comprising a scaling circuit (43).

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6. Claims 16-20 are rejected under 35 U.S.C. 102(b) as being unpatentable by Shih et al. US Patent No. 5,999,271.

Shih et al. teach a method for generating an electronic signal corresponding to selected wavelengths of light, said method comprising the steps of converting (see Col. 5, lines 9-22) at least first and second wavelength ranges of light (see Fig. 10 and Col. 5, lines 37-41) into first and second electronic signals wherein at least one of the wavelength ranges includes the selected wavelengths, and manipulating (see Col. 5, line 65 to Col. 6, line 3) the first and second electronic signals to generate an output signal (see Col. 6, line 3-5) corresponding to the selected wavelengths of light.

Regarding Claim 17, Shih et al. teach the converting step further comprising the steps of converting (see Col. 5, lines 9-14) a first wavelength range of light, including at least the selected wavelengths of light, to a corresponding first electronic signal, and converting (see Col. 5, lines 9-14) a second wavelength range of light, including at least wavelengths distinct from the selected wavelengths of light (see Fig. 10 and Col. 5, lines 24-28), to a corresponding second electronic signal.

Regarding Claim 18, Shih et al. teach a further step of using a differential between the first electronic signal and the electronic second signal (see Col. 5, lines 21-23 and Col. 5, line 65 to Col. 6, line 5) to generate the output signal.

Regarding Claim 19, Shih et al. teach a step of selecting first and second wavelength ranges which partially overlap (see Fig. 4 and 10).

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Regarding Claim 20, Shih et al. teach the selected wavelengths comprising visible light (see Col. 8, lines 49-50).

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 7 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. in view of Shoda US Patent No. 5,747,863.

Kato et al. teach an apparatus for generating an electronic signal in response to selected wavelengths of light comprising a first and second sensor for converting 2 wavelength ranges of light into a first and second electronic signal and a circuit for manipulating the first and second electronic signals to generate an output signal in response to the selected wavelengths of light. Kato et al. do not teach the circuit for manipulating the first and second signals comprising an arithmetic logic circuit. Shoda teach an image pickup device with a first sensor (6) (see Fig. 7 and Col. 12, lines 29-35) and a second sensor (7) (see Fig. 8 and Col. 12, lines 35-42) wherein the first and second sensors are provided with a spectral sensitivity differential (see Col. 13, lines 8-14), and an arithmetic logic circuit (5) (see Fig. 9 and Col. 4, lines 48-50 and Col. 13, lines 21-25) for manipulating the first and second electronic signals to generate an output signal. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the

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arithmetic logic circuit of Shoda in the apparatus of Kato et al., to process the differential between the two electronic signals to accurately analyze the spectral content of the incident light.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Matsubara et al. US Patent No. 4,804,833, teach a color sensing device and method with a first and second sensor and a circuit for manipulating the first and second electronic signals from the sensors to generate an output signal in response to the selected wavelengths of light.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Yam whose telephone number is (703)306-3441. The examiner can normally be reached on Monday-Friday 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on (703)308-4852. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-7724 for regular communications and (703)308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

SY

September 30, 2002



**DAVID PORTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800**